

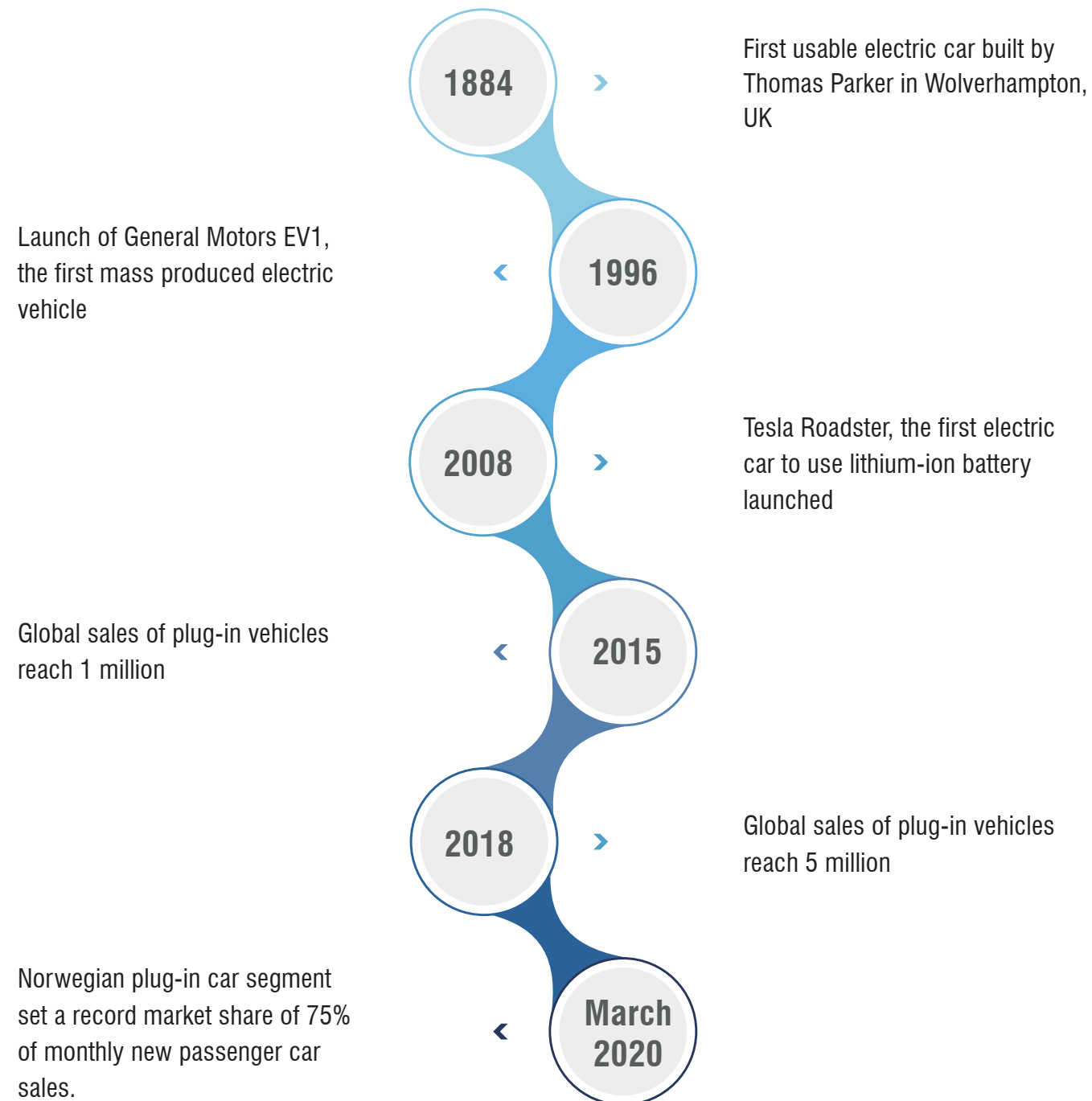


# Driving towards a sustainable future



## Brief history

### Important Milestones in the evolution of Electric Vehicles



Source: BBC and other media sources

### Types of electric vehicles

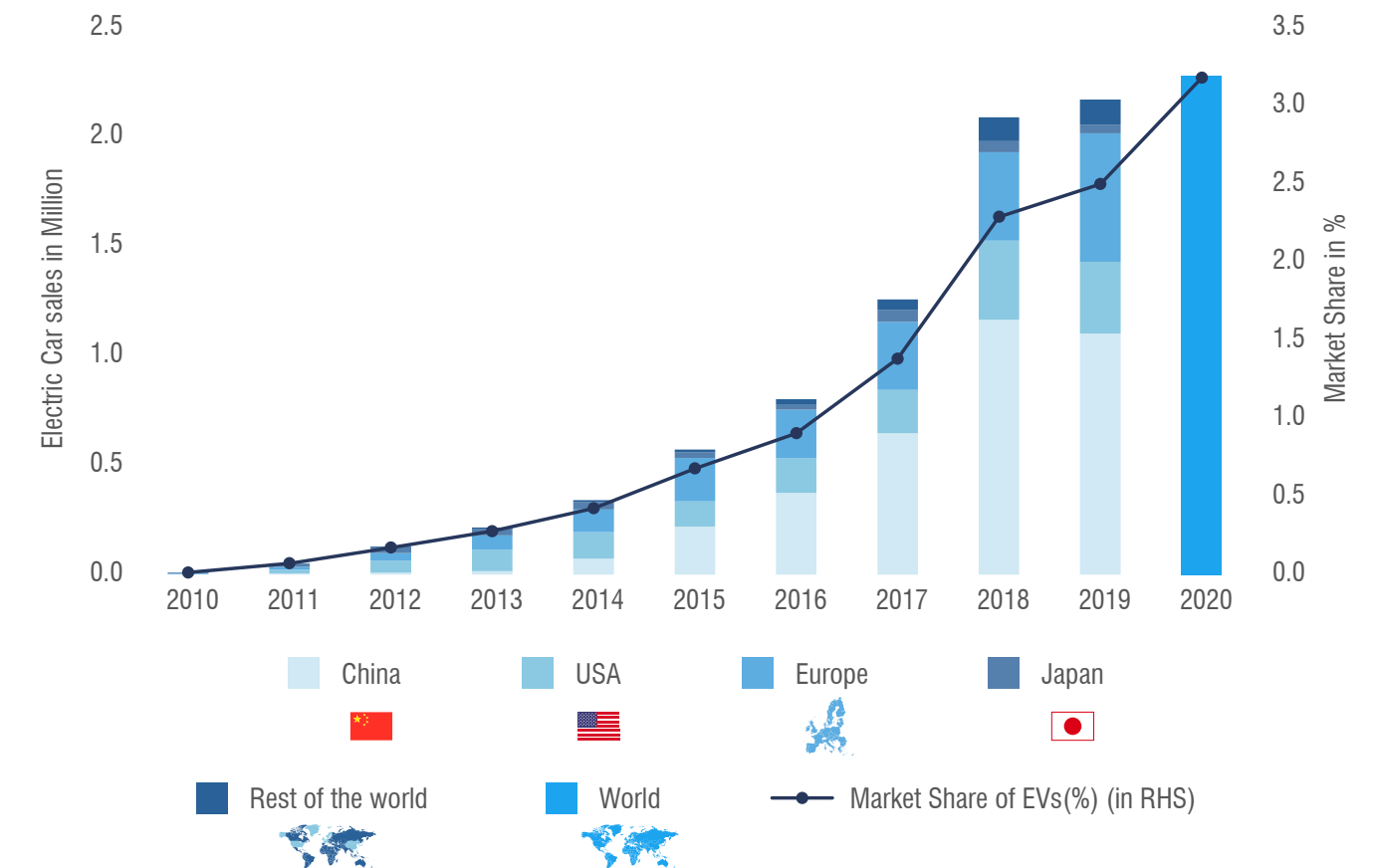
Hybrid Electric Vehicles (PHEV), which can be powered by both electric and fossil fuels.

Battery Electric Vehicles (BEV), which are fully electric.

## Electric Vehicle Market Landscape

Global electric car sales have seen a steady rise in the last decade.

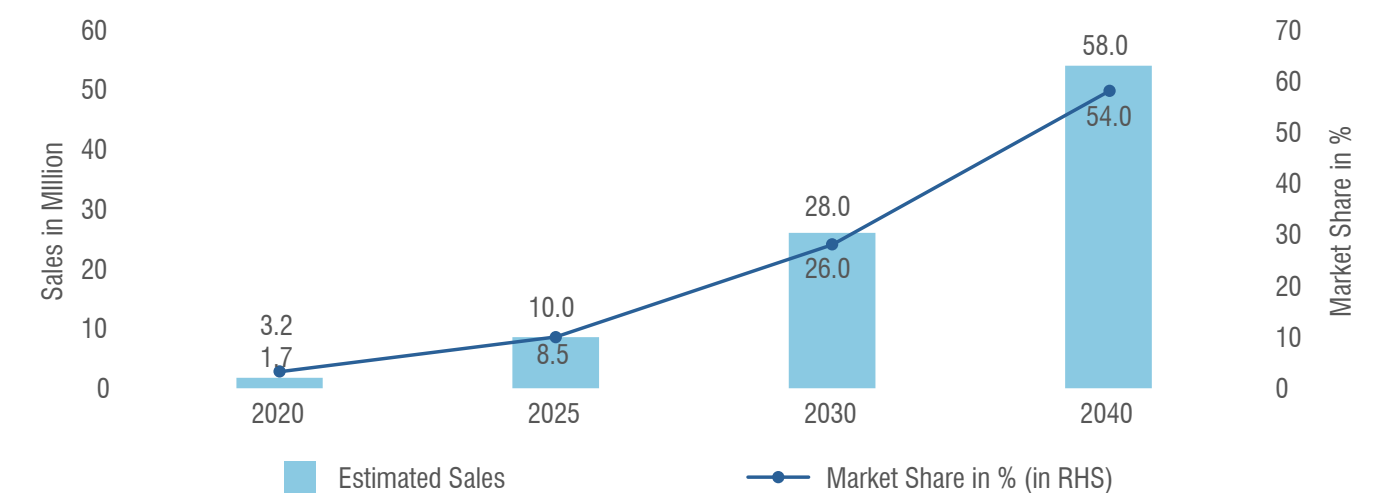
### Global electric car sales and market share by key markets



Source: IEA Global Electric Vehicle Outlook 2020

Electric car sales is expected to increase significantly in the next 2 decades.

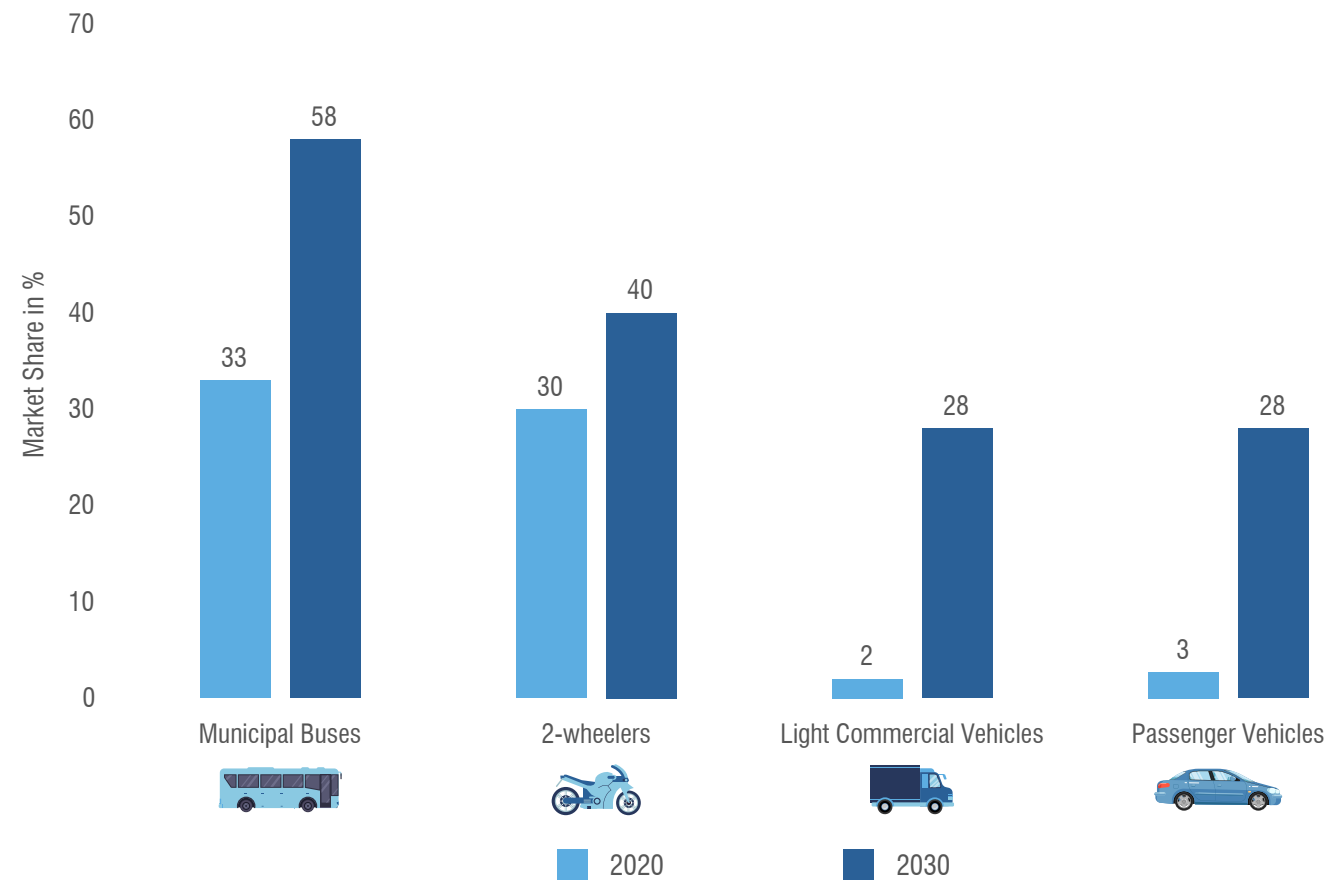
### Global electric car sales estimates 2020-2040 and estimated market share



Source: Bloomberg NEF Electric Vehicle Outlook 2020

Market share of Electric Vehicles are set to increase for all segments with Light Commercial Vehicles and Passenger Vehicles (Cars) seeing big increases by 2030.

#### Current and Estimated Electric Vehicle market share for each segment



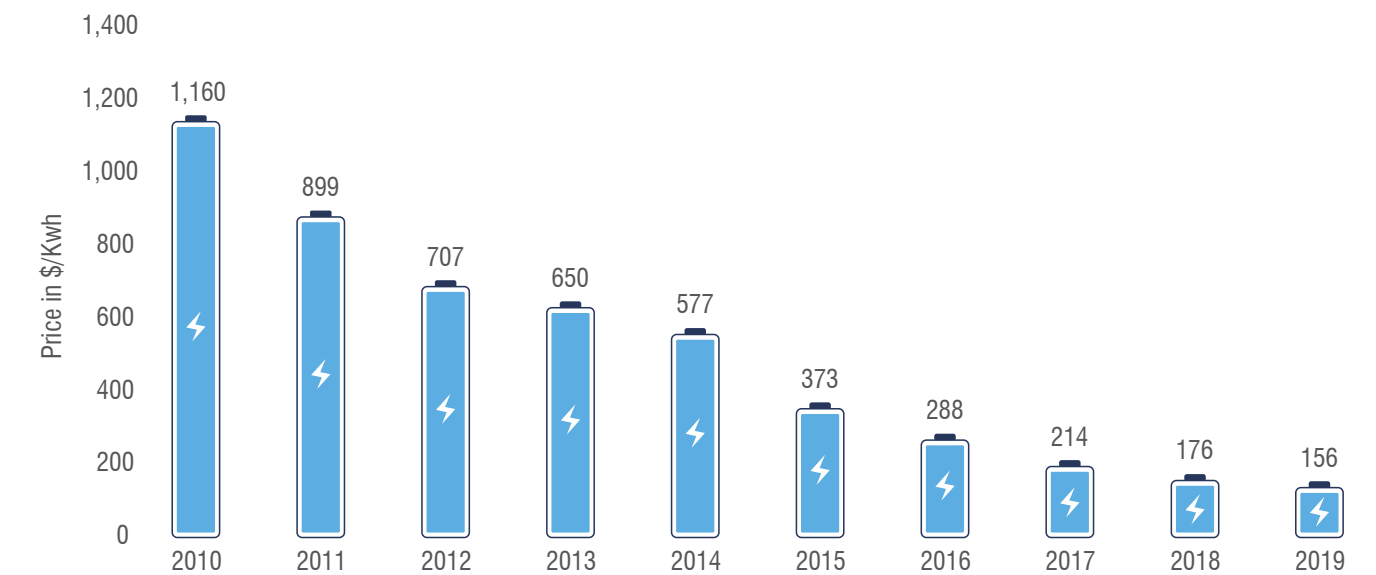
Source: Bloomberg NEF Electric Vehicle Outlook 2020

## Factors driving the Electric Vehicle market

### 1. Improvement in Technology

Lithium-ion battery prices have fallen by 87% in 2019 from that of 2010

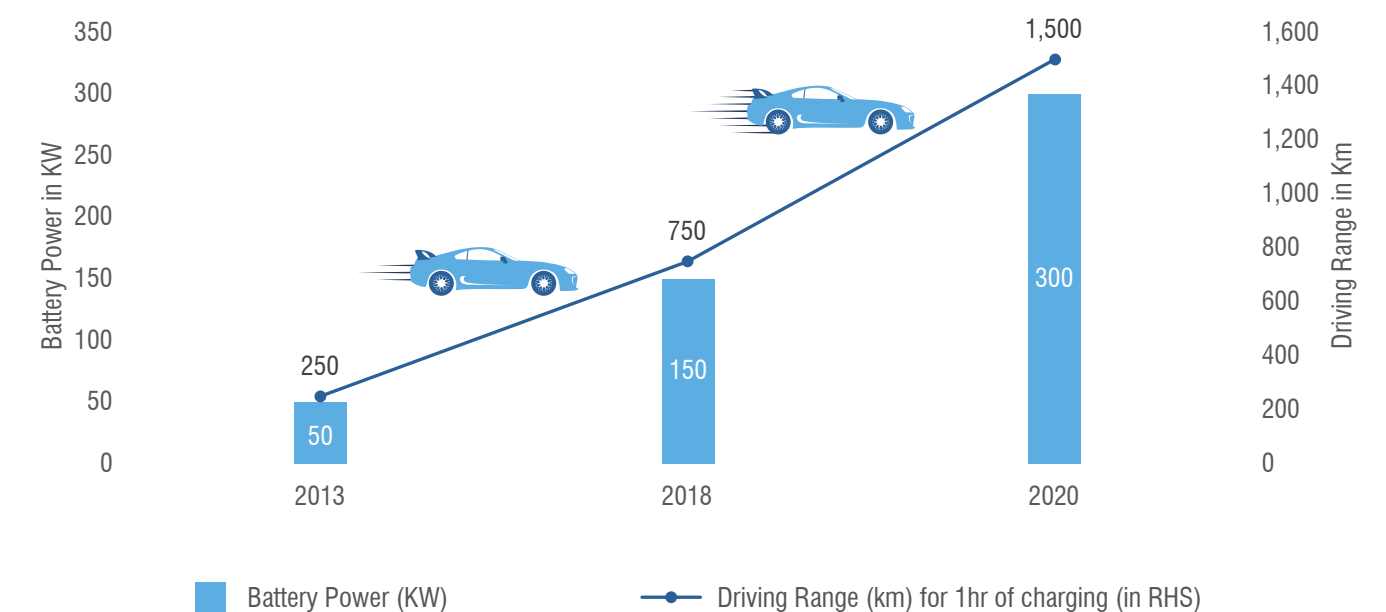
#### Average Lithium-ion battery prices from 2010-2019 (\$/Kwh)



Source: Bloomberg NEF Electric Vehicle Outlook 2020

Charging speeds and battery capacity have seen huge improvements in recent years

#### Improvement in Battery power and Driving Range of EVs

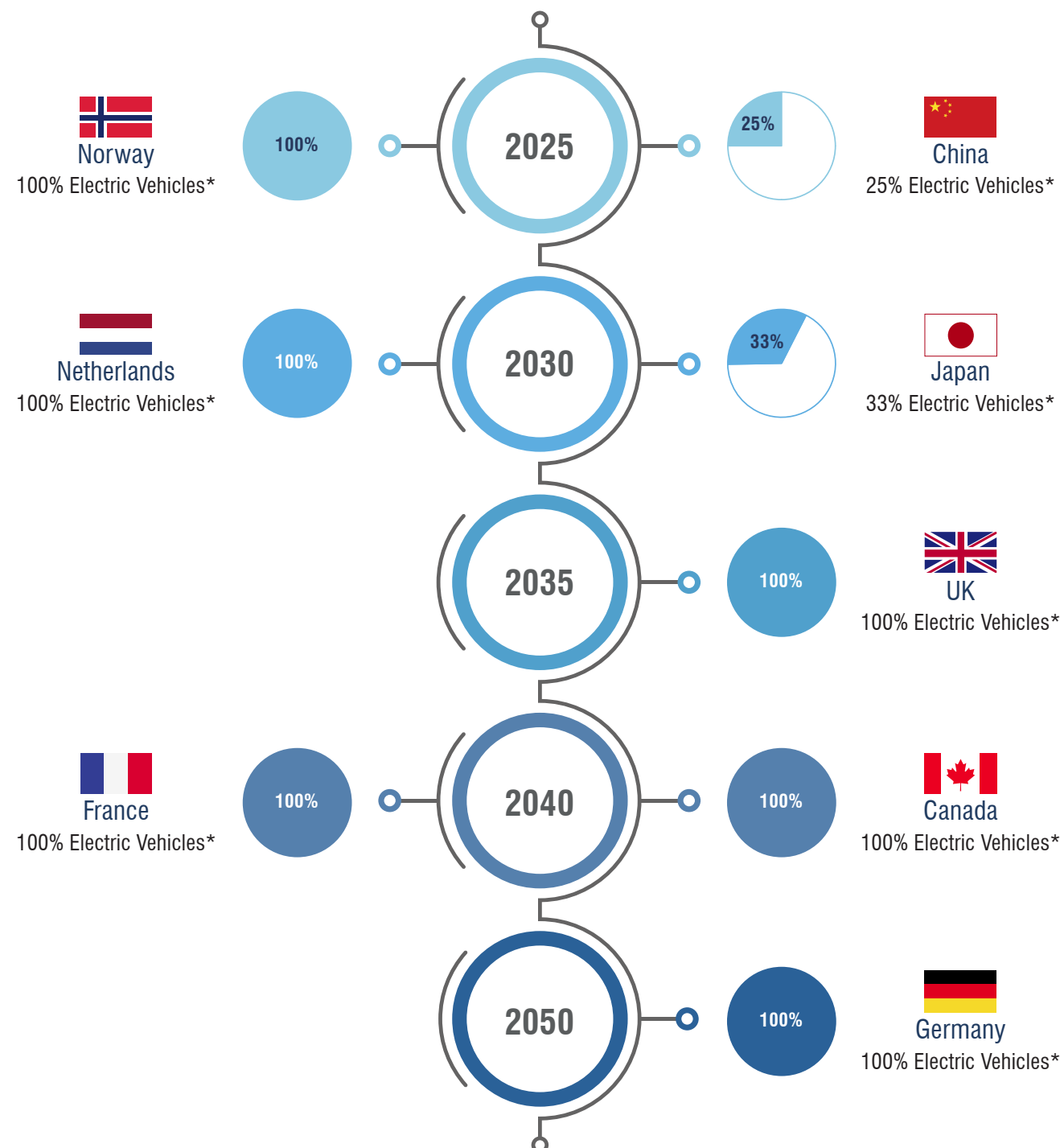


Source: Fastned

## 2. Government Policies

Governments around the world have announced targets for Electric Vehicles to comply with international agreements to reduce carbon emissions

### Key targets announced by world governments for Electric Vehicles



Source: International Council on Clean Transportation, government communications

\* Stated target in relation to Passenger Cars

## Automobile companies have set sales targets for Electric Vehicles

### Electric Vehicles Sales targets set by major Auto Companies

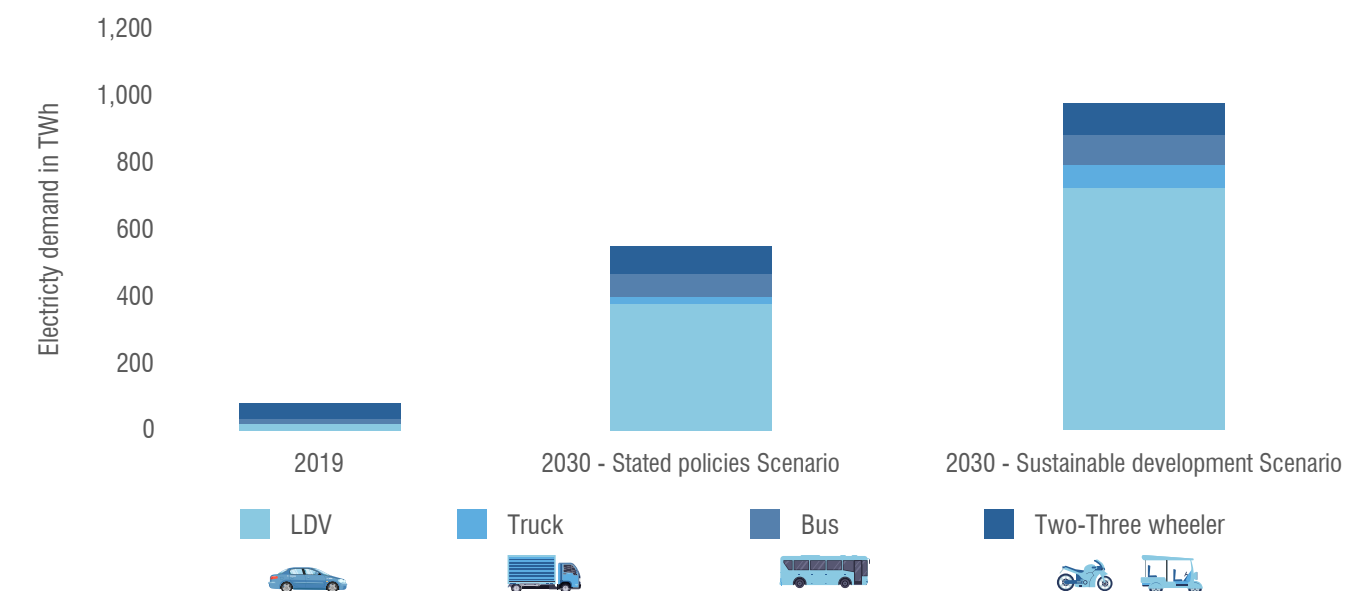
Car manufacturer	Stated target in relation to EVs	Target Year
Porsche	50% of sales to be EVs	2023
VW Group	Annual sales of 2-3 million EVs	2025
Daimler	15-25% of sales to be EVs	2025
BMW	15-25% of sales to be EVs	2025
Volvo / Polestar	50% of sales to be BEVs	2025
Chang'an	100% of sales to be EVs	2025
BAIC	100% of sales to be EVs in China	2025
General Motors	Annual sales of 1 million EVs	2026

Source: BNEF EV Outlook 2018

## 3. Estimated electricity demand from electric vehicles and current charging capacity

Demand for electricity from Electric Vehicles is expected to increase by 2030.

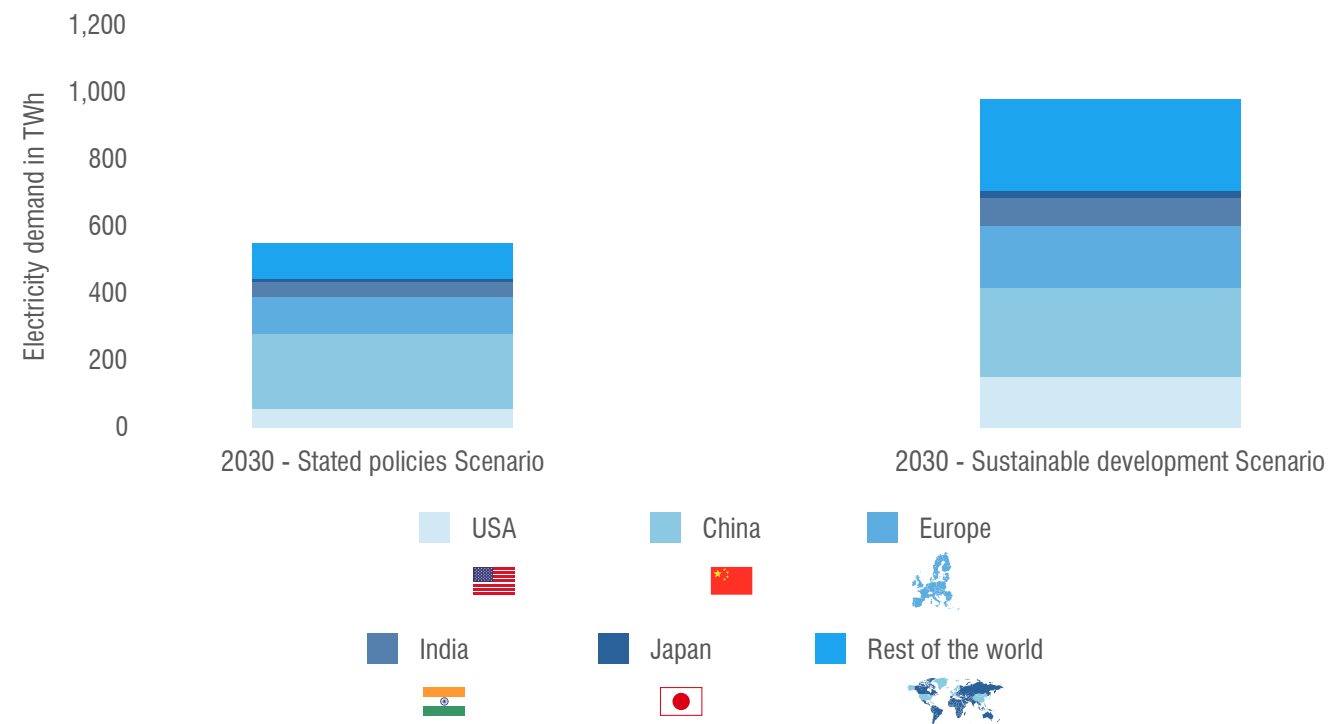
### Electricity demand in 2030 from electric vehicles by mode



Source: IEA Electric Vehicle Outlook 2020

Stated policies scenario assumes governments stick to their currently stated goals for EV adoption. Sustainable development scenario envisions aggressive targets for EV adoption like the EV30@30 campaign which aims to collectively reach a 30% global market share for electric vehicles in all modes except two-wheelers by 2030.

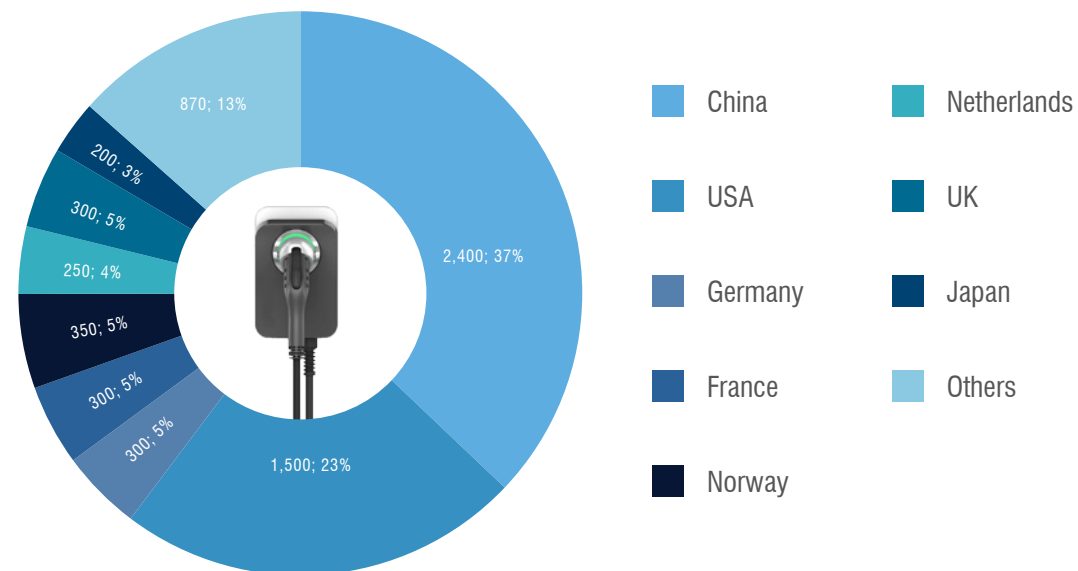
### Electricity demand from the electric vehicle fleet by country and region, 2030



Source: IEA Electric Vehicle Outlook 2020

Current EV charging demand is mostly met by private slow chargers, indicating plenty of growth opportunities for public chargers (both fast and slow).

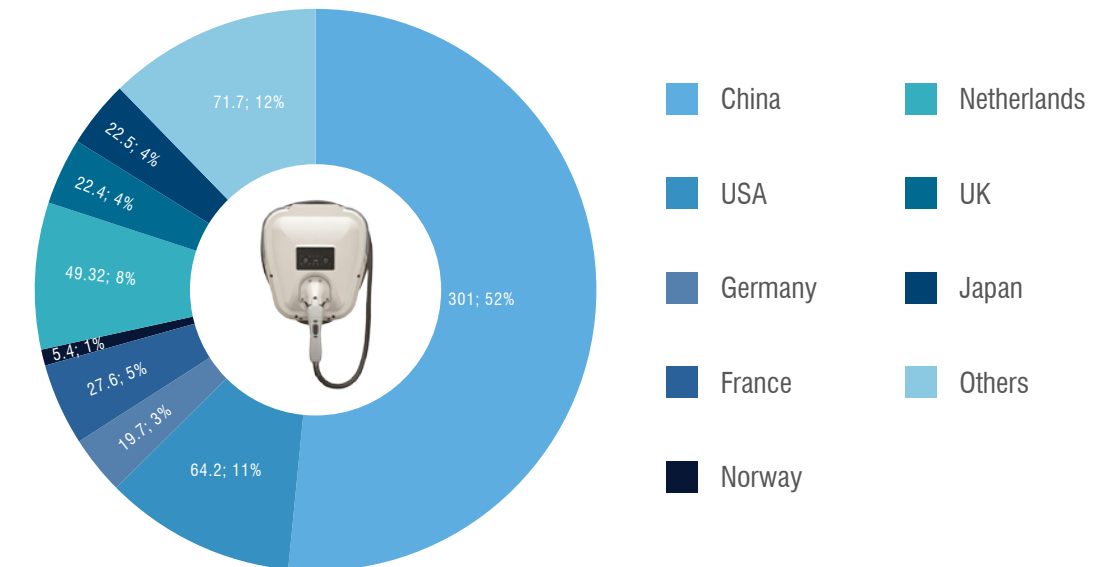
### Current Charging Capacity (Private Slow Chargers) (in Thousands)



Source: IEA Electric Vehicle Outlook 2020

China has 2.4 million Private slow chargers as of 2019-end, which is 37% of the global share.

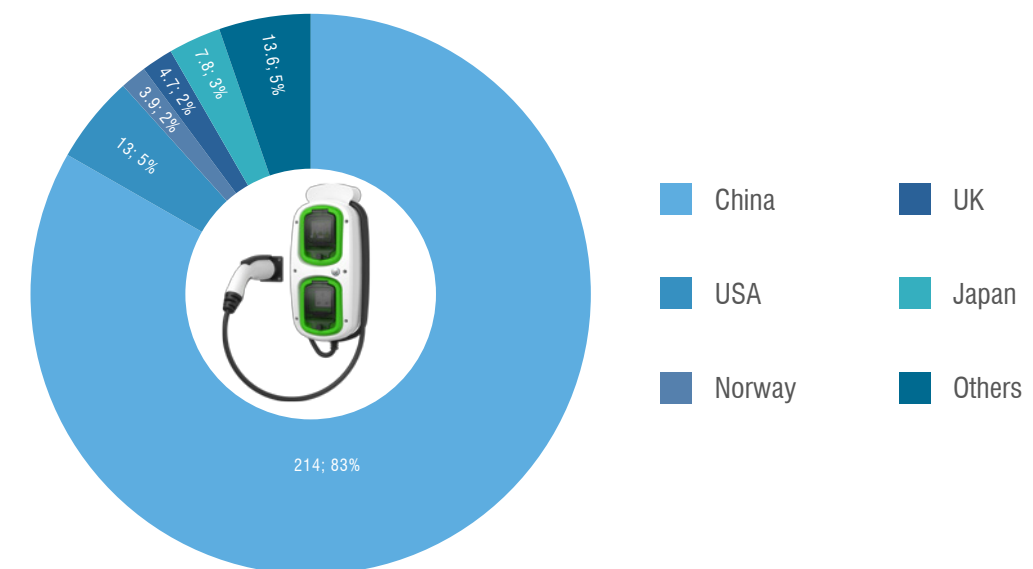
### Current Charging Capacity (Public Slow Chargers) (in Thousands)



Source: IEA Electric Vehicle Outlook 2020

China has 301,000 Public slow chargers as of 2019-end, which is 52% of the global share.

### Current Charging Capacity (Public fast Chargers) (in Thousands)



Source: IEA Electric Vehicle Outlook 2020

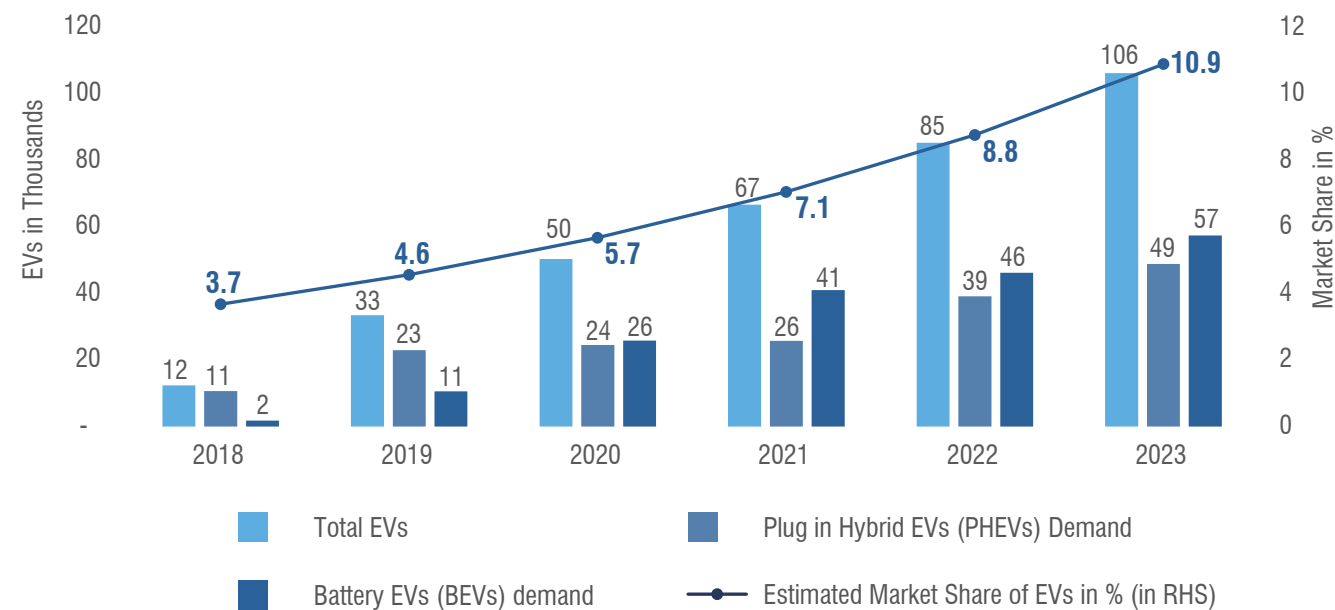
China has 214,000 Public slow chargers as of 2019-end, which is 83% of the global share..

# Electric Vehicle market in Saudi Arabia



Electric Vehicle demand is expected to increase in Saudi Arabia in the next 3 years.

Current and Estimated KSA Electric Vehicle Demand (2018-2023)



Source: Marmore Analysis

Note: Battery EVs are fully electric while PHEVs can be powered by both fossil fuels and electricity.

## Saudi Arabia and other GCC governments have introduced regulations for Electric Vehicles

### Regulations and Incentives in Saudi Arabia and GCC regarding Electric Vehicles

Particulars	Saudi Arabia	UAE	Rest of GCC
 Import of EVs	Approved by Saudi Standards, Metrology and Quality Organization (SASO) in 2018 for personal use and in 2020 for commercial use.	Imports allowed from 2013 in Dubai for personal and commercial use.	Qatar has allowed imports from 2018, Kuwait from 2020.
 Safety Regulations	Instituted in 2020 by SASO.	Instituted in 2017 by Emirates Authority for Standardization and Metrology which was later adopted by GCC Standardisation Organisation (GSO).	Rest of the GCC established guidelines based on GSO.
 Utilities support for EV Charging stations	Saudi Electricity Co (SEC) signed a deal in 2018 with Japanese Tokyo Electric Power Co (TEPCO) to develop fast charging stations.	Dubai Electricity and Water Authority (DEWA) provides free charging for EVs in public charging stations until December 2021.	Qatar's Kahramaa launched 7 EV charging stations in 2018 and plans to launch 100 stations by 2022.
 Incentives for parking	Saudi Arabia's Ministry of Municipal and Rural Affairs plans to allocate 5% of the total available parking spaces for EVs.	Dubai's Roads and Transport Authority has exempted EVs from public parking fees until July 2022.	Designated parking areas to be reserved for EVs in Qatar.
 EV targets	No targets set for EVs so far.	Dubai has mandated 10% of all vehicles should be electric by 2030.	Qatar plans to have 5% of all cars to be electric by 2022.

Sources: CMC Law firm, Argam, Reuters, Gulf News, Gulf Times, Peninsular Qatar

## Company Spotlight

### FASTNED

Fastned is a Dutch company that owns and operates a network of over 100 EV charging stations in the Netherlands, Germany, and the United Kingdom. A large majority of its stations are located at Dutch highway rest areas.

Fastned provides fast charging services to drivers of Battery Electric Vehicle (BEVs) through the development and operation of scalable fast charging stations at high traffic locations. Each location has multiple fast chargers allowing BEV drivers to charge their car quickly and continue their journey. All of Fastned's current stations are equipped with multi-standard fast chargers that enable charging with global charging standards, such as CCS.

**Founded: 2012**

**Headquarters: Amsterdam, Netherlands**

#### Key Highlights



- ▶ Fastned is one among Riyadh Valley Company's investment portfolio companies.
- ▶ Fastned operates 99 fast charging stations in the Netherlands with 192 50kW fast chargers and 89 150-350kW fast chargers at these stations.
- ▶ Fastned operates 15 fast charging stations in Germany with 15 50kW fast chargers and 28 175kW fast chargers at these stations.
- ▶ Fastned operates one charging station in the UK with four 50kW fast chargers and two 175kW fast chargers at this station.
- ▶ The exit of Riyadh Valley comes as a result of IPO of Fastned shares at Euronext in 2019.



GLM is a Japanese Company engaged in the manufacturing and sales of EVs and the provision of EV engineering solutions including chassis, power systems, and vehicle control units to downstream EV manufacturers in Japan. Currently, the company has launched 2 models of sports EV to the market, namely "Tommykaira ZZ", and "GLM-G4".

**Founded: 2011**

**Headquarters: Kyoto, Japan**

Product Name	Tommykaira ZZ	GLM-G4
Products Description	Mid-size Electric Car	Electric Super Car
Range of single charge	121 Kms	400 Kms
Year of Launch	2015	2019
		

#### Key Highlights

- ▶ GLM was one among Riyadh Valley Company's investment portfolio companies.
- ▶ RVC exited GLM when the company acquired by Apollo future mobility in 2017.

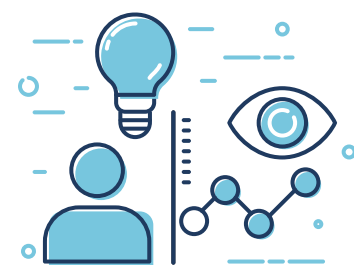




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Riyadh Valley Co

### Riyadh Valley Company

Riyadh Valley Company established in 2010 by Royal Decree No.116 dated 13/4/1431 AH to be the investment arm of King Saud University in the fields of Knowledge Economy and the university strategic projects.



#### Vision

To be the regional leader in knowledge-based investment and technology.



#### Mission

Riyadh Valley Company is a strategic investor, focused on leveraging the local capabilities, investing locally and globally in growth - stage businesses to create financial and strategic returns that will support the future of economic development in the Kingdom.

## Investment Sectors:



### Knowledge Investments



Healthcare investment



Renewable energy & sustainable resources



Information & Communication technology



### Real Estate Investments



Innovation and R&D Projects



Educational Projects



Healthcare Projects



Commercial Projects



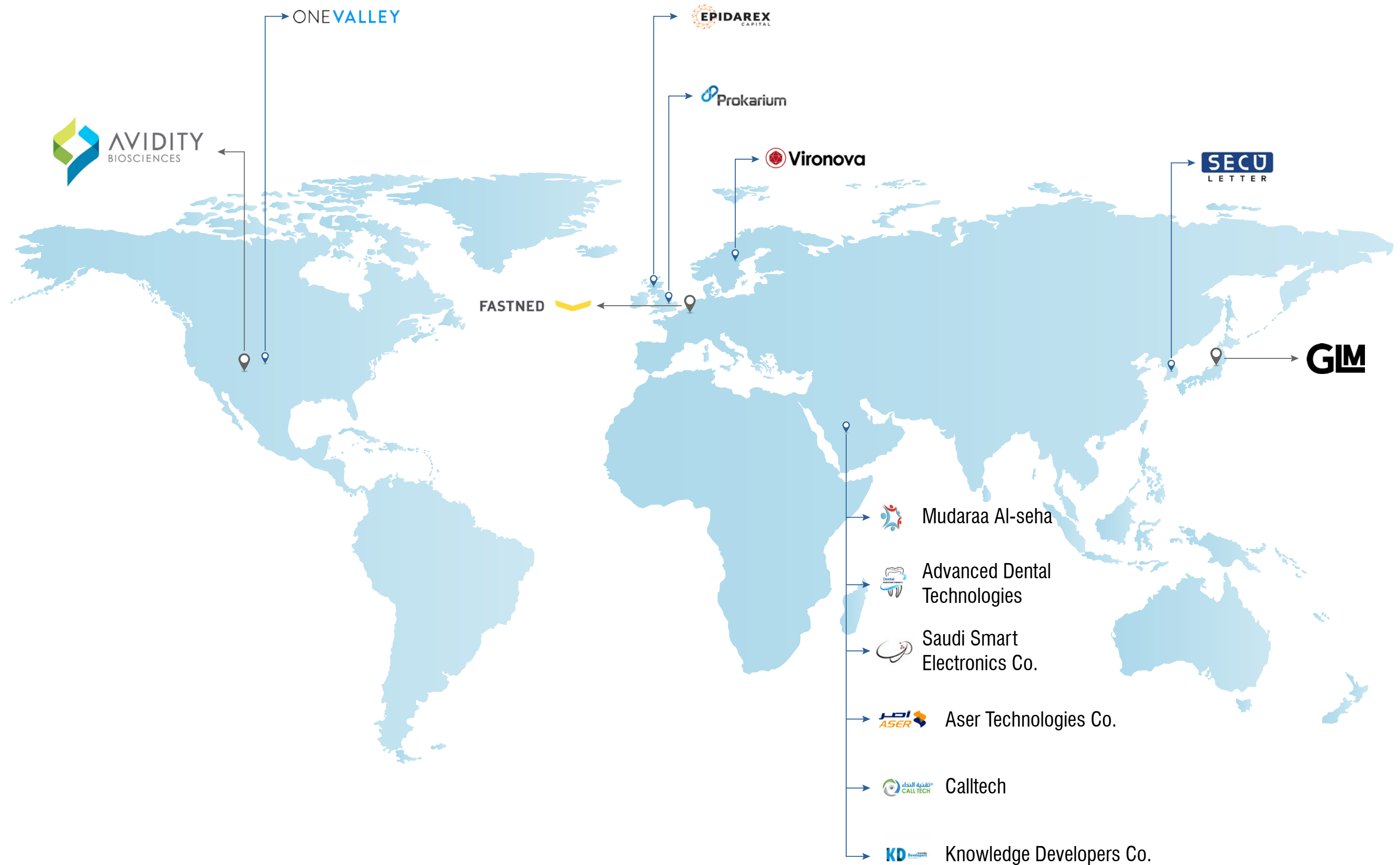
Residential Projects



Mixed-use Projects



## Knowledge Investment Portfolio



## Real Estates Investment portfolio



### Sudair Pharma Company Project

Research center and company offices for Sudair Pharma Company



### Four Directions Company Project

Commercial and office project contains office buildings and multi-use halls



### Derma Clinic Company Project (Residential)

Residential project for Derma Medical Clinics



### NMR Real Estate Company Project

Mixed-use project includes a hotel, restaurants and cafes



### ELM Information Security Company Project

Innovation Center project for Elm information security company



### Retail Real Estate Company Project

Social-Entertaining and sports project



### City Lights Real Estate Company Project

Entertainment-Commercial project contains screens on the building and architectural blocks, in addition to areas for live shows



### Hamad Bin Mohammed Bin Saedan & Partners Investment Company Project

The project serves King Saud University Campus residents. It includes large areas where events that reflect Saudi culture are held



### Al-soroooh Al-Mubarakah Company Project

Mixed-use project contains office complex, Mall, Restaurants, cafes, and walkway for visitors



### Derma Clinic Company Project

Medical-Commercial project contains several medical clinics, medical products stores, and pharmacies



### Arrowad For Higher Education Company Project

Educational complex, Arrowad colleges University campus in Riyadh



### Unified Real Estate Development Project

Cultural-Entertainment project that includes Luxury restaurants, Cafes, Cinemas and green spaces



### Sahat Al-Ardh Company Project

A commercial project contains various shops



### Obeikan Company Project

Commercial project contains various stores near the Common First Year building



### Dur Alkuttab Company Project

Educational project for Primary Schools



### Omnia Real Estate Development Company Project

Commercial project contains various shops



### University Boulevard

Commercial-Entertainment project gives visitors a different experience, and it includes Restaurants and cafes



## **Riyadh Valley Company**

Kingdom of Saudi Arabia, Riyadh – King Saud University, Innovation Tower

+96611 469 3219 | **[www.rvc.com.sa](http://www.rvc.com.sa)** | [info@rvc.com.sa](mailto:info@rvc.com.sa)



@riyadhvalley



Riyadh Valley Company (RVC)